



Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

PROFESSOR MARK BALAS NAMED AIAA FELLOW



The American Institute of Aeronautics and Astronautics (AIAA) named Professor Mark Balas, of the Space Vehicles Directorate, a Fellow. The AIAA honors Fellows for making notable contributions to the arts, sciences, or technology of aeronautics or astronautics.



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Wright-Patterson AFB OH

Accomplishment

Professor Mark Balas, a world-renowned control systems expert, was named an AIAA Fellow. The AIAA is the world's largest professional society devoted to the progress of engineering and science in aviation, space, and defense. Since the AIAA elects only one Fellow each year for every 1,000 voting members of AIAA, Fellows are part of a select group.

Background

Dr. Balas made theoretical contributions in linear and nonlinear systems, especially in the control of distributed and large-scale systems. His results in low-order control of infinite-dimensional systems are the key to practical controller design and operation for many new engineering system applications such as large aerospace structures and flexible mechanical systems, high-precision optics, and high-precision aircraft.

He was one of the founders of aerospace structure control. His work in reduced-order control and the alleviation of instability via residual mode filtering is well known throughout the field of active aerospace structures. Professor Balas also developed controllers for many space systems, including the Hubble Telescope, Teledesic Communications Satellite Array, and the United States Air Force Deployable Optical Telescope Demonstration Project.

Professor Balas produced many control theories and applications, and has a textbook in progress: *Control Theory for Finite and Infinite Dimensional Systems-A Unified Approach*. His survey article: "Trends in Large Space Structure Control Theory: Fondest Hopes, Wildest Dreams," is one of the most often cited papers in the field of aerospace structure control. He was a plenary lecturer on adaptive control for the International Federation of Automatic Control held in Bologna, Italy.

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (03-VS-27)

Space Vehicles
Awards and Recognition